Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-55. (Cancelled)

56. (Currently Amended) A method for estimating the quality of service of a plurality of communication paths between two points of a network, each path consisting of a plurality of trunks ,some of which are shared by more than one path, the method comprising:

storing samples of transmission delays of each trunk at multiple times during a given period of time;

determining a path busy period of ~~a particular~~ each path from the stored samples;

deriving a standard deviation for the delay of ~~particular~~ each path from the stored samples;

deriving a mean delay value for each trunk during the busy period;

summing the mean delay values of the trunks in each path to produce a path delay; and

adding the path delay to a path standard error to produce a total path delay value.

57. (Currently Amended) The method of claim 56, in which the busy period for each path is determined by averaging the path delay of the trunks for a first fraction of the given period of time to derive a first mean path delay; averaging the path delay of the trunks for a second fraction of the given period of time to derive a second mean path delay; comparing the first and second mean path delays; adding to the larger of the first and second path delays the average path delay of the trunks for a third fraction of the given period of time to derive a third mean path delay; and repeating the comparing and adding steps to derive the busy period.

58. (Previously Presented) The method of claim 57, in which the given period of time is 24 hours and the fraction is 1 hour.

59. (Previously Presented) The method of claim 58, in which the path delay for each fraction of the given period of time is derived by averaging the path delays of a sub-fraction of the given period of time.

60. (Previously Presented) The method of claim 59, in which the sub-fraction is 1 minute.

61. (Currently Amended) The method of claim 56 [[~~or 60~~]], in which the transmission delays are sampled at equally spaced times.

62. (Currently Amended) The method of ~~any one of~~ claim 61, in which the standard deviation of the particular path is derived by taking the square root of the sum of squares of the standard deviations of the trunks in the particular path.

63. (Currently Amended) The method of ~~any one of~~ claim 62, in which the fractions of the given periods of time partially overlap in a moving window equal to one sub-fraction.

64. (Currently Amended) The method of ~~any one of~~ claim 63, in which the path standard error is the standard deviation for the particular path times a coefficient related to the sampling rate of the transmission delays and a confidence factor.

65. (Currently Amended) The method of ~~any one of~~ claim 64, in which the samples are stored in a three dimensional matrix, where one axis is the time of the sample, a second axis is the trunk being sampled, and the third axis is the path between the two points.

66. (New) The method of claim 56, in which the standard deviation for each path during the path busy period is derived from the stored samples by first deriving the standard deviation for each trunk during the busy period from the stored samples and then deriving the standard deviation for each path from the standard deviations of the trunks in each path.

67. (New) The method of claim 66, in which the standard deviation for each path is derived from the square root of the sum of the squares of the trunks in each path.

68. (New) The method of claim 67, in which a path standard error is derived from the number of samples stored during the busy period, the path standard deviation, and a confidence level.

69. (New) The method of claim 68, in which the total delay of each path is derived from the mean delay of the path and the path standard error.